

10/528203

Rec'd PCT/PTO 09 JUN 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



538203

(43) International Publication Date  
1 July 2004 (01.07.2004)

PCT

(10) International Publication Number  
WO 2004/055910 A1

(51) International Patent Classification<sup>7</sup>: H01L 33/00,  
C09K 11/79, 11/78, 11/84

(21) International Application Number:  
PCT/IB2003/005727

(22) International Filing Date: 4 December 2003 (04.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
02102752.9 13 December 2002 (13.12.2002) EP

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(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,  
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,  
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,  
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: ILLUMINATION SYSTEM COMPRISING A RADIATION SOURCE AND A FLUORESCENT MATERIAL

(57) Abstract: The invention is concerned with an illumination system, comprising a radiation source and a fluorescent material comprising at least one phosphor capable of absorbing a part of light emitted by the radiation source and emitting light of wavelength different from that of the absorbed light; wherein said at least one phosphor is an oxido-nitrido-silicate of general formula  $EA_{2-z}Si_5-xB_zN_{8-x}O_4:Ln_z$ , wherein  $0 < z \leq 1$  and  $0 < a < 5$ , comprising at least one element EA selected from the group consisting of Mg, Ca, Sr, Ba and Zn and at least one element B selected from the group consisting of Al, Ga and In, and being activated by a lanthanide selected from the group consisting of cerium, europium, terbium, praseodymium and mixtures thereof. The invention is also concerned with a phosphor, which is an oxido-nitrido-silicate of general formula  $EA_{2-z}Si_5-xB_zN_{8-x}O_4:Ln_z$ , wherein 0

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